

SYSTEM AND METHOD FOR MONITORING AIRCRAFT ENGINE  
HEALTH AND DETERMINING ENGINE POWER AVAILABLE, AND  
APPLICATIONS THEREOF

ABSTRACT OF THE DISCLOSURE

Smart instrumentation and monitoring provide primary engine instrumentation for an aircraft. The instrumentation generates real time engine power available data for the entire power regime and flight envelope of the aircraft while engine monitoring functions track, record and output performance usage data, trend data, and flight profile data. Generated data is provided to an aircraft flight manual and mission management module that automatically calculates and generates aircraft operational and performance data needed to safely operate the aircraft. The generated data is selectively displayed on flat-panel cockpit displays and/or electronic kneeboard displays in a graphical format that enhances aircrew situational awareness and permits aircrew members to operate the aircraft with its intended margin of safety.

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